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ORIGINAL ARTICLES.

RECOVERY AFTER ABDOMINAL SECTION FOR PURULENT PERITONITIS.¹

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THE operative treatment of peritonitis is of sufficient importance to warrant the report of the following successful case:

A woman, aged forty-four years, came under my notice with the following history: About eight weeks ago she was seized with violent pain in the abdomen, which pain has been constant ever since, with occasional gripping and colicky sensations. There has been no vomiting, but for three weeks past she has been restricted entirely to liquid food by her physician. There has been no chill. When first seen by me, she stated that some three weeks previously she had been seized with great pain in the abdomen during the night, and that about that time she had noticed in the left side of the belly a tumor. I could get from her no definite history of the tumor, or of any previous abdominal disease. Her health previous to the present illness had been good. At the time my attention was called to her by Dr. Arthur V. Meigs, she had a temperature of 102° , and a pulse of about 130. From the flushed face, the thighs flexed upon the pelvis, the considerable pain on palpation of the abdomen, and the adynamic condition, it was very evident that the woman was suffering from peritonitis, due in some way to this tumor.

Accurate examination was not practicable on account of the pain which it caused, and the woman was too weak to permit any extensive or elaborate means of diagnosis being instituted. The tumor was smooth in outline and apparently about the size of a foetal head. A vaginal examination showed the uterus to be not much out of the normal position, although the fundus seemed to be tilted somewhat forward. My diagnosis, made in a provisional way, was a cyst of the left ovary, of perhaps several months' duration, which had ruptured, allowing the contents to escape into the abdominal cavity. It was possible, of course, that the peritonitis was due not to rupture of an ovarian cyst, but to some other form of tumor, or to disease of the Fallopian tubes.

Under the belief that removal of the tumor and cleansing the peritoneal cavity of the contents of the tumor which had been thrown into it would afford the best chance of recovery, I was induced to call a consultation as to the propriety of doing an abdominal section.

Accordingly, on the following day, with the consent of the other members of the surgical staff of the Pennsylvania Hospital who were present, I made an incision through the linea alba, extending almost from the umbilicus to the pubes, and at once came upon a smooth tumor containing fluid. Puncture of this with the trocar evacuated some five or six ounces of very offensive pus. The intestines and omentum were adherent to the surface of this sac, which was evidently the rounded mass felt through the abdominal wall. It was soon apparent that there had been a long-standing inflammation involving the structures contained within the abdominal cavity. It was impossible to enucleate this large sac or cyst because of the matting together of all the structures, and the large amount of new tissue which had formed as the result of the inflammatory process.

Although great care was taken, and a good deal of time consumed, I was unable, either by my hand or by means of a bougie introduced as an explorer, to determine the original site of the growth, or the reason for the beginning of the inflammation. There were a number of similar sacs or cysts containing pus, the walls of which were made up of adventitious tissue and the neighboring viscera. In fact, the whole contents of the left side of the pelvis were glued together by inflammatory adhesions and new tissue. As it was found impossible to remove all the new tissue or to tear up all the adhesions, I was contented with scraping out the most accessible portion of the sac wall, evacuating the pus from the numerous other cavities, and washing out the abdomen very thoroughly with a solution of bichloride of mercury containing one part of the salt to ten thousand parts of water. The abdominal wound, which was about five inches in length, was approximated by catgut sutures. Two rubber drainage tubes were inserted at the lower angle of the wound, and a dressing of iodoform and corrosive sublimate gauze applied.

The whole operation was done under the strictest antiseptic precautions, and the patient was then put to bed. For two days she received no food, liquid or solid, being allowed simply cracked ice, and an occasional small dose of morphia and brandy. Subsequently she was given small quantities of milk and such easily digested food. On and after the second day, a weak solution of corrosive sublimate of the same strength as that used at the time of the operation, namely, one to ten thousand, was used for washing out the abdominal cavity through the drainage tubes, but the upper portion of the wound dressing was not removed. The temperature gradually fell to normal, which point it had reached on the fourth day. At this time the upper portion of the dressing was removed for the first time, and a complete union of the upper part of the wound was found.

Three weeks after the operation, at her own

¹ Read before the Philadelphia Clinical Society, November 26, 1886.

request, she was discharged from the hospital, although she had not yet regained sufficient strength to be able to move about the room. In fact, we had kept her in bed up to that time, fearing that the exhaustion of getting up might be deleterious to her.

During the last week of her stay in the hospital, a portion of the incision reopened superficially. At the time of her discharge the opening into the abdominal cavity appeared closed, though there was still a small, superficial wound at the lower portion of the original incision.

This case of suppurative peritonitis due to an unknown cause, cured by operation, is a good illustration of the recent advances in abdominal surgery.

Although I did the operation under the impression that the origin of the trouble was an ovarian cyst, yet I should have been willing to do so had I known the exact condition of the disease, because in such a localized peritonitis as this, the symptoms present were almost certain to be followed by death. At least this is the reasonable conclusion when we consider the condition of the patient's temperature and pulse, and the fact that the peritonitis was so intense that her thighs were flexed upon her pelvis. I had, in fact, every reason to anticipate a speedy termination of the case.

Operations upon the abdomen have recently been performed for so many causes with such a high percentage of success, that it seems to me probable that many cases of peritonitis more or less resembling this one can be very successfully treated by abdominal incision and an evacuation of the purulent contents of the belly.

My experience in abdominal section and suture of the intestines, for stab wounds, and the experience of Bull, Hamilton, and others, in a similar treatment of gunshot injuries of the belly, together with my results in exploratory abdominal incisions, have convinced me that we are too ready to allow patients to die from intra-abdominal injuries. Rupture of the bladder, stab wounds of the intestines, gunshot wounds of the intestines, traumatic rupture of the intestines, perforating ulcers of the stomach, and even, perhaps, perforations due to typhoid fever should be treated in many cases by immediate opening of the belly and local surgical treatment.

This case is a contribution to the literature of the subject, to be added to the many cases similarly treated by gynecologists. General surgeons do not, I think, fully appreciate the advantages which are gained by imitating our gynecological brothers in the adoption of active surgical treatment for abdominal lesions.

A CASE OF CHRONIC DISCHARGE FROM THE MAMMA.

BY A. K. BOND, M.D.,
OF BALTIMORE.

ABSCESSES of the mamma, with consequent discharging sinuses, are familiar to every physician, and discharges of thin, sometimes bloody, fluid from the nipples are not infrequent in the course of mammary tumors. To the former class belongs the case which is the subject of the present article, differing

from those commonly seen in several particulars which make it especially interesting.

The patient, a well-built colored woman, a washerwoman by trade, consulted me in the spring of 1883, in regard to a discharge from the right breast, giving, in answer to my questions, the following history. She was thirty-eight years of age, and as a girl had been strong and healthy. She was married in her eighteenth year, and bore four children in rapid succession, nursing them without any trouble, save a slight rawness of the nipples, which occurred at the beginning of each lactation, and was relieved quickly by the use of astringent lotions. One of her four children died of brain fever, and one is now consumptive. Since her twenty-fourth year she has not been pregnant.

About four years ago a goitre appeared on the right side of the neck, and increased to the size of a half orange, becoming especially large at the menstrual periods. This I succeeded in permanently reducing by hypodermatic injection of tincture of iodine.

One and a half years ago, without known cause, her right mamma increased in size, until it became as large as a nursing breast, and, upon the application of poultices, discharged a quantity of pus through the natural ducts of the nipple. After a time the flow of pus ceased, leaving a chronic discharge of colorless fluid, which had continued ever since, and of late had proved so troublesome that she applied to me for relief. The discharge was slight during the daytime, but at night, while she was in bed or asleep, it became so great as to drench her clothing even as far as the waist, thus disturbing her rest, and proving a drain upon her system.

I ordered the ointment of belladonna to be applied to the breast, and, for a few weeks, this lessened the discharge; but, on July 3, 1883, she returned, complaining that the flow had been on the foregoing night again very great.

Upon examination, the fluid expressed from the nipple—which was of a pale yellow color, slightly tinged with red, and of a neutral reaction to litmus—showed, under the microscope, pus cells and red blood-corpuscles scattered over the field. During the following night her menses appeared. On July 6th she reported a considerable flow of blood from the right nipple on the preceding night. Upon examination, I expressed from the nipple a quantity of fluid, which, standing in droplets, appeared blood red, but upon linen produced a pale yellow stain like that of thin pus.

The right mamma was at this time soft to the touch, and the parts about the nipple seemed somewhat infiltrated with clear fluid, but the breast did not otherwise differ in appearance from the left breast, which was normal for a non-pregnant woman. The openings through which the fluid passed out were on the upper side of the nipple, and pressure within an inch of the nipple caused an escape in jets, while pressure upon the surrounding part produced no result.

On July 13th I again examined the discharge, finding groups of granular cells like small colostrum

corpuscles, and but very few red blood-corpuscles in the field. Another examination, on July 19th, showed similar groups; red corpuscles here and there; a number of cells about the size of red corpuscles; but with edges digitate and not so deeply pigmented, some of them containing red granules, and a great number of active pus cells. On August 5th and September 5th, her menstrual periods, she had again bloody discharges from the nipple, and on December 6th, ten days after her menstrual flow, an abundant discharge of blood. The pale discharge remained uncured up to this time, although now and then lessened in quantity under the use of remedies.

As the patient was very much debilitated at the beginning of the treatment, I used, during the whole time she was under my care, general tonics, such as iron, arsenic, and cod-liver oil, with great benefit to her health. I also used internally for a time extract of belladonna and zinc oxide, but without any appreciable influence upon the mammary trouble.

The local treatment of the mamma was a subject of careful thought. Astringent lotions did no good. Belladonna ointment applied frequently to the breast was followed by considerable diminution in the flow, but after a few weeks ceased to have any influence upon it.

Strapping the breast with adhesive plaster, leaving the nipple free, lessened the discharge, and was of great comfort to the patient. Attacks of pain from irritation and over-distention, which occurred from time to time, were readily relieved by warm poultices over the breast.

In addition to the above methods, I devised still another which aided me greatly in the relief of the trouble. Wishing to reach directly the surface affected, and to apply the remedies immediately to it, and not feeling justified in laying it open by an incision, I thought of using the natural openings of the nipple for the purpose. Accordingly I had a hypodermic needle filed blunt, and introducing this after the manner of a sound along one of the ducts from which the discharge escaped, found no difficulty in passing it in to the depth of an inch or more, and injecting, without injuring the parts, various solutions upon the mucus-secreting surfaces of the gland. Attaching the syringe, and holding the nipple firmly but gently against the needle, I threw in a small quantity—a half drachm or more—of fluid, until the parts were fully distended, and, after holding it in for a few seconds, permitted it again to escape. In this way I injected, at first water, then a solution of alum at intervals of a few days. After a fortnight, I exchanged this for liquor iodinii compositus diluted with water, continuing its use for several weeks, but without either checking the discharge or bringing about a healthy action of the secreting parts.

Again, on December 3d, three months after the failure of the iodine method, a degree of pain in the breast called for local anodynes, and I injected in the same way small quantities of morphia and atropia solution, or (when the pain was less) of a four grain solution of atropia, both of which injec-

tions seemed to diminish greatly the amount of the discharge.

Under these injections of atropia and of morphia, which were continued once or twice a week until the middle of February, 1884, the patient experienced great relief, the discharge ceasing altogether, although the secretion continued in a slight degree, the patient pressing out each morning a few drops of fluid from the nipple. An occasional attack of pain in the breast was readily relieved by the application of a poultice. My daily record ends April 11, 1884, two months after the latest injection, and up to this time there had been no recurrence of the discharge. The breast when last examined was soft to the touch, and showed no signs of induration. Pressure on the lacteal sinuses was painful, and caused the escape of a few drops of fluid.

A note added eight months later reports the patient in good health.

The peculiar points in the case above recorded are the occurrence of an abscess of the breast without known cause, in a woman who was neither pregnant nor nursing; the secretion of fluid in such large quantities, and the unusual manner of its discharge; the flow of blood from the nipple at the time at which the menstrual flow was taking place.

I cannot find any similar case noted in the books which I have at hand.

The direct method of application of drugs through sounding of the nipple ducts is worthy of recommendation in similar cases.

MARTIN'S OPERATION FOR PROLAPSUS UTERI, SLIGHTLY MODIFIED.

BY BARTON C. HIRST, M.D.,
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At a time when an operation for prolapsus uteri so difficult of execution and often so unsatisfactory in its results as that proposed by Alexander, is seriously discussed, and when it is even suggested that abdominal section be performed in order to fasten the fundus of the uterus to the abdominal wall, a short account of an operation comparatively easy to do, absolutely safe, and which, its originator claims, has not yet failed to produce good results in his hands, may be of interest.

The operation described in the last edition of Martin's book *Pathologie und Therapie der Frauenkrankheiten*, was devised by him after a trial of the various methods proposed by Winkel, Neugebauer, Simon, Hegar, and Bischoff had convinced him that they were not to be relied upon to produce a permanent cure; it consists of a posterior and an anterior colporrhaphy and a circular amputation of the cervix. The posterior colporrhaphy resembles the operation proposed by Emmet for the cure of lacerations of the perineum; the denudation makes a figure that may be compared to a half-moon with two extensions from the plane surface, one on each side of the median line: these two extensions run up the posterior vaginal wall, one in each lateral sulcus, on both sides of the posterior column; when the stitches are introduced and the wounds are closed, the figure

is Y-shaped, the lateral arms being in the vagina on either side of the column, and the straight arm running through the perineum.

The anterior colporrhaphy is performed by excising an elliptical piece of mucous membrane from the anterior wall of the vagina, one pole of which should be at the junction of the external cervical with the vaginal mucous membrane, while the other should reach almost to the meatus urinarius; this should be the first step of the operation, and should be done while the uterus is in a condition of total prolapse. The mucous membrane should be dissected off in a single piece, the width of which at its widest part should about equal the width of the anterior wall of the vagina. The denuded surface will appear so extensive as to excite some apprehension that the wound cannot be closed, but this difficulty is obviated by the use of the continuous catgut "Etagennaht;" with a needle and a long catgut thread the central portions of the denuded surfaces are brought together, the needle passing with each stitch from the urethra toward the cervix; when the lowest point is reached, the same thread is carried up again toward the urethra, the relations of the parts being inverted by the prolapse, uniting still larger surfaces; and finally, if necessary, the same suture is again reversed, this time bringing together the edges of the mucous membrane that at first looked so far apart that their union seemed almost impossible. Thus the two sides of the denuded surface are brought into perfect apposition and without an excessive amount of tension.

Martin insists upon the amputation of the cervix as essential to the success of his operation, believing, as he does, that there is always present a hypertrophic elongation of the supravaginal portion of the cervix, but in this he is probably mistaken. Every one who is familiar with these cases must have noticed that after replacing a prolapsed uterus and confining the woman to bed for a few days, the measurement of the cavity will be little, if at all, above the normal, although before it may have been, perhaps, ten or fifteen centimetres. The so-called hypertrophic elongation is therefore merely a temporary condition produced by mechanical causes, and by no means a true hypertrophy; if, then, the uterus can be retained in place the mutilation entailed by the amputation of the cervix is unnecessary.

I have lately had an opportunity of performing this operation, modified by the omission of the amputation of the cervix, with such a satisfactory result as to warrant me in calling the attention of those who have not had an opportunity of seeing Martin's book, to an operation which seems to promise the best results in a class of cases that have hitherto been only too apt to defy all treatment.

The case in which Martin's operation proved a success may be briefly described as follows: Mrs. C., aged fifty-seven, applied for treatment on September 10th, with the history that her womb had come down a year before; that since then she has had increasing difficulty in walking and in performing her housework, and that whenever she urinated she had first to lie down and replace her womb, but that even then urination was painful. An examina-

tion showed total prolapse of the uterus, a large cystocele, and extensive erosions of the cervix; the sound showed a length of ten centimetres. The womb was replaced, the woman confined to bed, and after the ordinary local treatment for five days the erosions were healed. The uterus measured seven centimetres. On September 15th, the operation was performed in exact accordance with the description already given, omitting, however, the amputation of the cervix. On the fourteenth day the stitches, shotted silkworm gut, were removed from the posterior vaginal wall and the perineum; the catgut sutures had been absorbed; the union was perfect. The highest temperature had been 99.5°, there had been no bleeding and no suppuration. To-day, November 4th, the uterus is in good position, the woman is actively engaged in her household duties, and considers herself cured.

MEDICAL PROGRESS.

TYROTOXICON AND CHOLERA INFANTUM.—At a recent meeting of the Michigan State Board of Health, Dr. VAUGHAN said:

Since my last report I have found tyrotoxicon in one sample of milk. As this case has a direct bearing on the probable relationship between tyrotoxicon and cholera infantum, I will report it somewhat in detail.

July 30, 1886, about one o'clock P.M., I was called to see the seven months' old babe of Mr. B. I found that the child had been vomiting quite constantly for some three hours. It had also passed watery stools some six or seven times. The eyes were sunken, skin cold and clammy, and pulse rapid and small. I diagnosed cholera infantum. During the preceding night, the child had seemed as well as usual, and had taken nourishment freely from the mother's breast. Early in the morning it had been given a bottle of cow's milk, and soon thereafter the nausea and vomiting began. Later, as stated above, the child began to purge. The mother furnishing an insufficient supply of milk, it had been the habit to give the child cow's milk several times during the day. I prohibited the further use of milk, both that from the mother and from the bottle, and substituted meat preparations and rice water as foods. I also prescribed pepsin, bismuth subnitrate, chalk mixture, and camphorated tincture of opium.

The cow's milk which had been furnished the child was from an animal kept by one of the neighbors. On the evening of the same day that the child was taken sick, I obtained two quarts of the morning's milk of this animal. The milk had the appearance of very rich cream, being of a yellow tint throughout. This milk was allowed to stand through the night of the 30th in the ice-box of a refrigerator. On the morning of the 31st I began the analysis. After pouring the milk from the pitcher, there remained in that vessel about two ounces of a fluid the color of port wine. Microscopical examination of this fluid showed the presence of pus and blood corpuscles. The blood was also detected by obtaining the characteristic bands of oxyhemoglobin with the spectroscope. The milk, which had already coagulated, was filtered. The strongly acid filtrate was rendered feebly alkaline with potassium hydrate, and then agitated with absolute ether. After separation the

ether was removed with a pipette, and allowed to evaporate spontaneously. This residue was dissolved in distilled water and again agitated with ether. This ethereal solution left, after spontaneous evaporation, a residue which had a slightly brownish tint. I did not obtain the crystals of tyrotoxicon, doubtlessly owing to this trace of impurity; but the residue had the odor and taste of tyrotoxicon. This residue dissolved in some distilled water, and given to a cat, produced retching and vomiting.

That tyrotoxicon was present in the milk taken by the child shortly before the beginning of its illness, there could now be no doubt. It is true that the milk was abnormal in other respects also, inasmuch as it contained pus and blood.

After the withdrawal of all milk, and the use of the medicinal agents mentioned above, the child began to improve, and by the afternoon of August 1st it seemed so well that it was allowed a bottle of good cow's milk (from another animal); but soon after taking this milk it again began to vomit and purge. Milk was again withheld and the same medicinal treatment resorted to. This attack was slight, and after it the child continued to improve until the night of August 4th, when the grandmother, who "knew more about raising babies than the doctor," fed the child bountifully upon milk. Again the vomiting and purging began, and it was more than a week before all symptoms of gastro-intestinal irritation had disappeared. About the 15th of August milk was again allowed, at first in small quantity, and this seeming to have no harmful effect, more liberal quantities were given. The child has continued well since.

From the above observed facts, I infer that not only the poison but the ferment, by whose growth the poison is generated, was introduced to the alimentary canal, that this microorganism continued to live until some time after August 4th, and when the milk was given the poison was again formed by the growth of the ferment. Whether or not any germicide could have been borne by the child in sufficient quantity to destroy the ferment I do not know.

It now remains to ascertain with certainty the nature of the ferment concerned in the production of tyrotoxicon, and to determine by experiments upon milk inoculated with this germ the value of various germicides. Many physicians claim that the bichloride of mercury, in proper doses, is a very valuable agent in the treatment of cholera infantum.

Fortunately no other children were furnished with the milk of this cow which first supplied the B. baby. The attention of the owner of the cow was called to the nature of the milk, and its use by all was discontinued for some days. There was no sore visible upon the teats. Had this milk been mixed with that of a number of other animals, the color would have escaped detection, and all the milk might have been rendered poisonous.

COCAINE IN ACUTE PHARYNGITIS.—DR. KURZ mentions in the *Abeille Médicale* that, having a severe case of phlegmonous inflammation of the pharynx, producing dyspnoea, violent headache, and great pain in the neck, which was unrelieved by chlorate of potash, salicylic acid, quinine, and ice, he painted the pharynx with a four per cent. solution of cocaine. The first application caused a choking sensation and vomiting; it was repeated at the end of five minutes, and

this time no reflex actions appeared. After two more applications the local symptoms disappeared as if by magic, the extreme tumefaction becoming scarcely perceptible, and the voice, respiration, and power of deglutition returning. The cure was ultimately completed by a two per cent. resorcine spray.

VOLITION AND COUGHING.—THOMAS F. RUMBOLD, M.D., of St. Louis, Mo., writes as follows to the *Maryland Medical Journal* of December 4, 1886:

There is far more probability of an anodyne application relieving a little finger that is benumbed by a blow on the elbow, than that a cough will remove the sensation in the throat that is caused by an irritation due to inflammation or to a lodgement of a secretion behind the soft palate.

I have known patients cough, on an average, ten times every five minutes for two hours in the morning, making two hundred and forty spasmodic efforts to relieve the throat of tickling sensations. Now, this is tiresome to a weak individual and the relief of one-half of their efforts may be sufficient to prevent the throat becoming inflamed and thus prevent the lungs being implicated in the disease. If a healthy individual coughs two hundred and forty times in two hours every morning—not to take into account the very frequent coughing through the day that is done by every such patient—he will, in a few weeks, have his throat so highly inflamed that he may require medical aid for its relief.

A good method to help one to control the cough, is to mark each cough on a card, preserve this card, and endeavor to decrease the number of coughs each day. I have known patients to decrease these efforts seventy-five per cent. One patient coughed one thousand and eighty-five times on the first day's tallying, on the next day she coughed four hundred and fifty times, on the next, only two hundred and twenty times. This may seem to some to be trifling work, but the result is always beneficial to the cough and to the strength of the patient. Some patients have tried to control the cough without marking each effort down, but they are not certain as to the degree of decrease or increase of the cough; there is no doubt that a patient will be more certain of success in controlling his cough if he marks every effort on a piece of paper; under these circumstances the mental effort will greatly assist in resisting the sensation of tickling in the throat.

HEMICHOREA SYMPTOMATIC OF BRAIN DISEASES.—DR. BIDON, in an extended essay, sums up the symptomatology, prognosis, and treatment of hemichorea as follows:

1. Cerebral diseases may be accompanied by hemichorea. Under the term hemichorea, we group all varieties of post-hemiplegic incoordination, excepting epileptiform tremors.
2. The nature of the lesion is unimportant, its location is of the greatest moment.
3. The lesion causing hemichorea must be at some point of the pyramidal tracts; there is not a distinct centre for each variety of incoordination.
4. Motor incoordination is due to disturbed equilibrium through muscular antagonism. Equilibrium is broken generally by contracture, and sometimes by paralysis.

5. The diagnosis, to be accurate, must inform us with what type of movement we have to do, and tell us the seat and nature of the lesion.

6. Intelligent gymnastics, the continuous electric current, and also the faradic, offer the best hopes in treatment.

7. The prognosis is not absolutely hopeless, but is not bright.—*Revue de Médecine*, October 10, 1886.

ACONITINA.—According to MANDELIN, the alkaloid obtained from *aconitum napellus* is benzoilaconine, or aconitine in crystallizable form, together with some amorphous alkaloid of less physiological activity. *Aconitum ferox*, on the contrary, contains pseudo-aconitine or veratroillaconine. The unequal activity of the roots of these two species is not the result of unequal richness in alkaloids, but of the different power of the alkaloids they respectively contain. Aconitine is one of the most energetic of poisons. For a frog, 1.2 to 2.4 milligrammes per kilo, is a lethal dose. In warm-blooded animals 0.05 to 0.75 milligramme per kilo. For a man, three milligrammes would be a fatal dose. German and French aconitine is benzoilaconine; English (especially Morson's) is veratroillaconine. The simplest method of testing the activity of the alkaloid is to inject a known quantity into a warm-blooded animal, as a rabbit or guinea-pig. Aconitine does not give color reactions; any which occur are due to impurity. The want of characteristic chemical reactions, the readiness with which it decomposes, and the minuteness of the lethal dose, render the detection of aconitine extremely difficult in toxicological cases.—*Manchester Medical Chronicle*, November, 1886.

ANTAGONISM OF STRYCHNIA AND COCAINE.—BIGNON, after numerous experiments on dogs, finds that an animal which has been poisoned by strychnia, in doses not above two milligrammes to each kilogramme of body weight, can be saved from death by the hypodermatic use of cocaine, pushed to the point of delirium, and the effect maintained until elimination has occurred; this result may be obtained even after tetanic spasms have occurred.

In poisoning by three milligrammes of strychnia to each kilogramme of body weight, success may still be attained by pushing the cocaine above two centigrammes per kilogramme of weight, doses which exceed the toxic dose of cocaine.

The author observed complete recovery in animals so poisoned in about six hours.—*Bulletin Générale de Thérapie*, October 30, 1886.

EXPERIMENTAL RESEARCHES CONCERNING THE REGENERATION OF THE TISSUES OF THE LIVER.—In experimenting upon animals PODOVSSOKI observed that wounds in the liver substance healed without manifest loss of substance or scar. The first appearance of regeneration occurred after a hyperæmic period of ten or twelve hours. In cats and rats the liver cells proper increased by nuclear segmentation; connective tissue cells and bloodvessel epithelium increased by the indirect growth of nuclei.

Especially interesting was the growth of the epithelium in the bile-ducts, which in some animals is directly reproduced, in others furnishes a starting-point for the

liver parenchyma. The cells and ducts which develop from the gall-ducts grow either by direct extension of their elements or through an exuberant growth in an intermediate stage of liver tissue proper, reproducing the embryonal development of the liver.—*Centralblatt für die medicinischen Wissenschaften*, Nov. 13, 1886.

ACETOPHENON.—SCHÜDER has experimented with this drug in fourteen cases, comprising heart and lung affections of varying severity, in doses varying from two to five drops given in capsules. Its effect was the promotion of a peaceful sleep in intervals of an hour or an hour and a half after taking.

No unpleasant after-effects were observed, and it was especially grateful to phthisical patients, whose cough was much lessened.—*Deutsche medicinische Wochenschrift*, November 11, 1886.

PTYALIN AND MILK FERMENT IN URINE.—HOLVOT-SCHINER has by experiment with solutions of starch found ptyalin in urine, which, under appropriate conditions, demonstrated its amylolytic power. The ferment was found to be most abundant four or six hours after eating and in the morning urine. With those suffering from gastric and intestinal catarrh it was most abundant in the afternoon.

The milk ferment was found most abundant in the urine passed four to six hours after a meal. In the urine of one or two hours after a meal the ferment is almost absent.—*Centralblatt für klinische Medicin*, October 9, 1886.

TREATMENT OF BRONCHITIS IN SCROFULOUS SUBJECTS.—The following is MONIN'S formula :

Ol. morrhuae	500 parts.
Iodal	1 "
Essence of eucalyptus	8 "

Two spoonfuls daily.—*Revue de Thérapie*, November 15, 1886.

TREATMENT OF NEPHRITIC COLIC.—HUCHARD recommends the following :

Sodi ⁱⁱ benzoat.,	
Lithii carbonat.,	
Ext. stigmat. maydis	ââ gr. xlv.
Ol. anisi	g ^t t. iij.
Divide in 60 pills.	

Sig.—Four pills daily.—*Les Nouveaux Remèdes*, November 24, 1886.

TREATMENT OF LARYNGO-PHARYNGITIS.—The following are COUPARD'S formulae :

By atomization five minutes night and morning :	
Acid. carbolic.	gr. xv.
Potass. bromid.	3jss.
Aqua	Oj.

And as a gargle :

Acid. carbolic.,	
Zinc. chlorid.	ââ gr. xv.
Syrup. morph. hydrochl.	ââ j. v.
Inf. cocæ sol.	3viss.

—*Revue de Thérapie*, December 1, 1886.

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SATURDAY, DECEMBER 25, 1886.

THE PREVENTION OF SYPHILIS.

THERE can be no doubt that syphilis is a less frequent and, in general, a less formidable disease than it used to be. The cases are fewer, and it is becoming rare to see those horrible illustrations of its possible ravages, which were very numerous so late as the first half of this century. Nevertheless, syphilis is one of the gravest disorders to which the human race is exposed, and there should be no relaxation of the efforts of medical men to find the best way in which to treat it, or the most successful means for its prevention.

This latter question has been recently discussed quite fully in the first Congress of Russian Physicians, in January, 1886, a report of which may be found in the *Monatshefte für praktische Dermatologie*, for October, 1886. As is usual in such discussions, much was said about the utility of police supervision of prostitutes, and we are not surprised to find that a great deal of evidence was brought forward which indicates that what is known as the legalization of prostitution, or anti-contagious diseases acts, is but a broken reed, not fit to lean upon. For example, SPERK, of St. Petersburg, said that 42 per cent. of the public women in that city are in the condylomatous stage of syphilis; and HERZENSTEIN thought thus to exclude them from following their calling would simply drive them into the ranks of clandestine prostitution. POLOSEBNOW recommended the multiplication of special hospitals for venereal and skin diseases. Herzenstein seconded this recommendation, and added to it one for women physicians to treat female patients, and for the diffusion of a popular knowledge of the nature

and effects of syphilis. A female physician, SINAIDE ELZIN, discussing the police supervision of the Jahrmarkt in Nishni Novgorod, said there were present from 700 to 900 public prostitutes, and a multitude of clandestine prostitutes. Upon examination of 355 women, she found 22 women with urethritis, 2 with chancroid, only 1 woman with the initial lesion of syphilis, 1 with gummatous, and 18 with condylomata. The frequency of syphilis in Russia may be gathered from the fact that PETERSEN made a calculation that more than 1600 persons become infected with syphilis every year in St. Petersburg, while HERZENSTEIN found that in the five years from 1877 to 1882, 9543 men were relieved from military duty in Russia on account of the disease.

The most important conclusions of the Section on Syphilography were in favor of the popularization of knowledge in regard to syphilis, the erection of special hospitals, the separation of syphilitic prostitutes from non-syphilitic, the proper supervision of syphilitic infants in foundling asylums, the utility of women physicians in combating the spread of syphilis, the founding of benevolent societies to assist patients—syphilitics included—dismissed from hospitals, and the proper classification of venereal diseases into urethritis, venereal ulcer, and syphilis.

Somewhat over a year ago DRs. E. W. ALLISON and W. E. ASHTON, of this city, presented to the Philadelphia County Medical Society an elaborate paper on "The Failure of Legislation in Limiting the Spread of Venereal Diseases." The general tenor of this paper may be inferred from its title. Its principal conclusions may be summarized as follows: Legislation increases clandestine prostitution; this is the most dangerous form of prostitution, and more dangerous in countries in which there is legislative regulation of prostitution than where there is none; legislation tends to the spread of syphilis on this account, and also by the false sense of security in having intercourse with certified women which it effects; and, finally, educating the public concerning syphilis and furnishing proper hospital accommodations for venereal patients, are the rational means to limit the spread of these diseases. These conclusions, it will be observed, are very like those of the Russian Congress, and they may be regarded as those of most unbiased students of the subject. It is fortunate that syphilis has never become in this country the scourge which it has been, and still is, in certain parts of Europe. Nevertheless, it is a very grave disease, and one which involves the innocent in a common ruin with the guilty. The libertine is but little more likely to suffer for his indulgence than is his injured wife and innocent child. The chaste and trusting maiden may acquire it from the lips of her unworthy lover, or the babe from its foster-mother's breast. How this can be prevented

it is hard to say, while men have appetite and women are willing to satisfy it for gain. Prohibition has never recommended itself to those who make laws, continence seems unattainable while human nature remains as it is, restriction does not restrict, medical examination is a delusion and a snare, and it would seem that the most promising means of limiting the spread of syphilis are those recommended above, namely, popular education in regard to the risks and consequences of acquiring syphilis, and better hospital facilities for its treatment. Police regulations cannot be effectively applied to this as to other contagious diseases, for the reason that the moral stigma which attaches to indulgence of the sexual appetite must always prevent complaint or proof of wilful or negligent communication of syphilis. Increased public intelligence and an improved morality are the only hope for the future.

It is regrettable that this fact does not seem obvious to the recently founded New York Society for the Prevention of Contagious Diseases, the first announcement of which lies before us. From the announcement we gather no promise but that of a free dispensary for venereal diseases, and of female physicians who will examine gratuitously prostitutes who ask for their services. A society with so laudable an object as is expressed in the title of this one should show something which could not be even misconstrued as an advertisement of the medical men connected with it, or as an indirect effort to increase their own gains.

We hope this subject of the prevention of venereal diseases may receive the careful consideration of our readers, and that we may soon record some intelligent and unselfish effort to deal with the delicate problems which it presents.

PRURIENT SCIENCE.

In connection with the attempt to place upon a permanent basis an American opera company, the clergy of America have recently expressed their opinion of the ballet, and we observe with pleasure that their opinion is not treated as an unwarranted interference by those who hope to see this country maintain a really first-class company of this sort. One of the reasons for the way in which the action of the clergy is received, is the fact that it has not been offensive or bigoted. It is true that a number of clergymen have declared their conviction that the opera cannot be made pure; but no small number have protested that it can. With the latter we agree, but we feel sure that this desirable end can be secured only by free criticism of what seems reprehensible—criticism offered and taken with sincerity and candor.

The same condition exists in regard to certain sorts of literature, of which medical literature is an

example. The modern taste for the popularization of science has led to the publication of many books of a medical or semi-medical character, which are ostensibly intended for the instruction of the community, as well as for the benefit of the author. The latter object is a legitimate one, if the former be; while, if it be not legitimate, such publications are most dangerous to the well-being of the people. Unfortunately our own country has witnessed the spectacle of medical writers issuing volumes under the guise of scientific treatises, which contain matter which it is not too severe to call obscene, and which would be confiscated by the government under our postal laws if it were not for the claim that they are scientific publications. Our review columns can bear witness to the fact that we have not hesitated to raise our protest against the indecency of some such books, and to stigmatize the apparent willingness of certain authors to appeal to the basest passions of their readers.

We recur to this subject just now because of the recent appearance of a third volume of a work by an Italian professor of anthropology, which we will not name more fully for obvious reasons. The subject of this volume would be of fascinating interest to many men and women—and unfortunately, also, to many youths—to whom its science would be of little interest and of no use. If we lived in old Pompeii the book would probably be hailed with delight, but living in a clean land, and in a clean age, we trust that all right-minded men will share our opinion that it is worse than a waste of time for an able scholar to collect such a mass of prurient material as it contains, and far worse to put it within the reach of thousands who have no business with it.

And, again, we raise our voice against the prostitution of science to the use of prurient minds. In medical books and in less pretentious medical writings, the spirit of chastity should never be missed; and, if sometimes those who use the printing press use it to promulgate facts or opinions which are calculated to lower the standard of virtue in the community, it is the duty of all who have the opportunity to emphasize the error of their course, and to let it be seen that it cannot escape notice or condemnation. Such vigilance and such fidelity will go far toward preventing new accessions to the ranks of prurient medical authors, and in time we may hope the race will become extinct.

PALPATION OF THE PELVIC ORGANS.

An interesting point in regard to the palpation of pelvic organs made by Schultze, in 1885, has recently been cited in the *Centralblatt für die medicinischen Wissenschaften*. Schultze calls attention to the possibility of error from making pressure upon the intra-pelvic muscles. The obturator internus may be felt

through the rectum or vagina as a distinct swelling, when the thigh is rotated strongly outward. Pressure upon the muscle is rarely painful, but pressure on the obturator nerve, which accompanies it, produces a cramp-like pain in the thigh. The belly of the psoas magnus may be mistaken for a morbid growth, an error which will not be likely to occur if the thigh be actively flexed and extended while the finger rests upon the muscle. The pyriformis muscle may also be a source of error unless a similar procedure be employed.

In these days when displacements of the ovaries and pelvic cellulitis fill so large a portion of the horizon of gynecology, it may be well to bear in mind the errors into which the muscles within the pelvis may lead an unwary examiner, and Schultze has done a worthy service in calling attention to them.

AN INTERESTING WORK.

At the last meeting of the College of Physicians of Philadelphia in the annual report of the Library Committee allusion was made to the rapid growth of the Library, and reference to its origin one hundred years ago. There was placed on the table the first donation to the Library, which included a splendid edition of the "*De Sedibus et Causis Morborum*," given by the illustrious Morgagni to Dr. John Morgan, the founder of the Medical Department of the University of Pennsylvania, on the occasion of his visit to Padua. Dr. Rush is responsible for the statement that Morgagni claimed kindred with Dr. Morgan on account of the resemblance of their names, and says that on a blank leaf of a copy of the work he inscribed the words, "*Affini suo, medico praeclarissimo Joanni Morgan donat auctor.*" Several writers have doubted the correctness of Dr. Rush's quotation, as no such words can be found in the volumes. On the inside title-page of Vol. I. there is the inscription beginning "*Viro experientissimo et Humanissimo,*" and in Vol. II., "*Viro de re Anatomica bene merito,*" but no such inscription as quoted by Rush. The title-page of Vol. I. shows that it had become so frayed and worn and the lower third of the page so very defective that some careful bibliophile had pasted it upon a new sheet of paper. On the old and thumb-worn fragments can still be discerned faint traces of writing which doubtless represent the first inscription by Morgagni which Rush had seen and copied before it had become faded and defaced by time.

A UNIQUE case of polymastia is described in the *Centralblatt für Gynäkologie* for November 6th, which is interesting from the fact that there were eight accessory breasts and nipples, the largest number ever observed. The upper pair were situated

in the axillæ; the others were arranged symmetrically, with the exception of the lowest pair, which were situated on the same line, but on a different level; the lowest nipple was about on a level with the last rib. Milk exuded on pressure upon the respective breasts from all the nipples, while the flow from those in the axillæ was spontaneous and constant.

MEASLES and diphtheria are very prevalent in New York at the present time, and the epidemic is on the increase. During last week 558 cases of measles and 66 deaths were reported to the Board of Health. Of diphtheria, 109 cases were reported, with 50 deaths.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, November 8, 1886.

THE PRESIDENT, CHARLES MCBURNEY, M.D.,
IN THE CHAIR.

DR. LANGE presented at the last meeting a young man eighteen years of age, suffering from what he had diagnosed as

ANEURISM OF THE OBTURATOR ARTERY.

The case gave rise to an animated discussion, opinions being divided as to the nature of the tumor and its subsequent treatment. He now presented the patient for further examination, stating that he asked the boy to call at his office about eight days later, and upon examination was astonished to find the pulsating swelling had entirely disappeared, at the same time the boy had lost the pain which he had complained of before as being sciatic in character; the boy said that after the examination here by the members of the Society, during the night the pain left him and has never returned, and neither has there been any swelling since. Dr. Lange remarked that he could find no plausible explanation of the case unless that a sudden obstruction of the main vessel had taken place.

DR. SANDS remarked that there did not seem any other explanation of the disappearance of the tumor except that the manipulations the young man underwent at the last meeting cured the aneurism. At the time when he was shown here, although there was difficulty in discovering the tumor, it certainly did exist and the general opinion was that it was a true aneurism of some one of the branches of the femoral or internal iliac. This case called to his mind a somewhat similar one occurring some twelve years ago in the Roosevelt Hospital. A man having a well-marked pulsating aneurism of the left axillary artery, entered the hospital and complained of sudden pain in his left arm; on examination no pulsation could be found in the left radial or ulnar arteries. It was suspected that this man had a large clot, displaced from the aneurismal sac, and situated in the upper part of the brachial artery, and that the absence of pulsation in the arteries of the forearm was due to that cause. He was kept under observation for six weeks, at the end of which time he was perfectly cured

of his aneurism, which meanwhile had ceased to pulsate. Dr. Sands thought the same conditions might have occurred here.

DR. STIMSON remarked that the history of aneurisms indicates that the coagulated blood could hardly disappear in so short a time.

DR. SANDS asked whether there had not been some difficulty at first in finding the aneurism.

DR. LANGE replied that there was, and it was only by severe pressure upon the obturator artery that he was able to detect pulsation at all.

DR. LANGE then reported the following case of

LYMPHANGIOMA OF THE SCROTUM.

E. S., aged sixteen, from Wilkesbarre, Pa., born in that county, noticed, about one year ago, a swelling of his scrotum under acute symptoms—pain, redness, and local heat, which gradually and first with pain, later on without pain, increased until on the 2d of October, when the patient was first seen. It had then attained the size of two fists. At times small vesicles on the surface of the scrotum would burst, and with a free discharge of a clear fluid, and the swelling would somewhat diminish in size. Treatment was without noteworthy effect, the swelling increasing steadily. Numerous elevations were visible on the skin varying from the size of a sand-grain to that of a pea or small bean. On closer examination the larger ones proved to be composed of numerous small vesicles with clear watery contents. Some of these elevations had a wart-like, papillary character, others were more flat. On the lower part of the lateral aspect of the scrotum a fine network of distended lymphatic vessels could be distinguished, clearly differing from neighboring veins by their transparent condition. The skin of the penis was also involved to some extent near the root of the scrotum, and the pendulous portion of the penis was made almost invisible through the traction of the heavy scrotum, like a large hydrocele or inguinal hernia. Both testicles seemed normally developed, but around both fluid gathering in the tunica vaginalis could be made out. On the right side one was able to press both testicle and fluid into the inguinal canal, so that a distinct large prominence above Poupart's ligament could be achieved in this manner.

The patient suffered also from a similar swelling on his right leg which he has had from infancy. The leg looked pale, cylindrical on account of its prevalent thickening above the malleoli. The swelling has the same soft, flabby character, and consists apparently in a thickening of the subcutaneous layers.

Three weeks ago the scrotum was removed and on both sides Volkmann's operation for hydrocele was done simultaneously. The neighboring edges of both tunica vaginalis were sewed together and to both a common slit in the integument was left. The operation was done with very little loss of blood, after passing an elastic ligature around the root of the external sexual organs above two needles which transfix the organs crosswise.

Recovery took place without any trouble. Still there can be seen here and there, in the new scrotum, some of those small watery vesicles, and Dr. Lange intends to make numerous punctures, which in a similar case had done him good service.

DR. ABBE remarked that the same patient was examined by him a week before he went to Dr. Lange,

while he was at St. Luke's Hospital; but he had slipped from his observation and never returned, although he had sent a letter to him. At the time he saw him Dr. Abbe tapped one of the little vesicles and had the fluid examined microscopically for filaria. The patient had never been in a hot climate, and the examination proved negative; it seemed to be more like serum than lymph, was of a straw-color, and also had not the property of gelatinizing.

HYPERTROPHY OF A LIMB FROM LYMPHATIC OBSTRUCTION.

DR. WEIR presented photographs of a young girl who had been seen when aged twelve, in 1883, for lymphatic obstruction, affecting the right thigh. The enlargement had then existed four years. The thigh, which was at that time only involved, measured three and a half inches larger than its fellow; the skin, while thickened, was smooth and movable on the subjacent parts. An elastic bandage was ordered to be applied, and was worn for over a year without benefit. Two years later the patient was again seen, when the thigh was six inches larger around than the left one, and the leg was now involved, and measured two and a half inches more than that of the unaffected side. The skin was more irregular, and studded in the upper part of the thigh by several little prominences. On incision lymph freely exuded, some of which was submitted to microscopical examination with a negative result; nothing could be felt in the abdominal cavity.

VARICOSE LYMPHATIC TUMORS.

DR. WEIR also showed, in further illustration of diseases of the lymphatics, a tumor, or rather two tumors, removed from a man of twenty-two years, who, residing in the West Indies, had suffered from pain in the upper and inner aspect of the thigh and in the scrotum, for the past four years. Running slightly above Poupart's ligament on the left side, and extending nearly four inches below it was a soft, irregularly outlined tumor, uneven in surface, which subsided when the patient laid himself down, and reappeared in the erect posture, and which gave an impulse on coughing. It simulated closely a hernia. It was associated with a similarly acting mass in the left inguinal canal, which reached nearly to the testicle. In the centre of the femoral tumor, which was some five inches broad, were several small nodules that were at first taken for fatty masses of omentum, but, on being isolated, it was found that they could be made sensibly smaller on pressure; whence the diagnosis was arrived at—a dilatation of lymph vessels. A vertical section allowed the growth to be exposed, and it was seen to consist of a congress of lymph vessels, situated mostly outside the fascia lata, but at the saphenous opening, closely adherent to the femoral vein and artery, and requiring careful dissection. The divided lymph vessels allowed very free discharge of milky lymph. Through the same wound, after removal of the thigh collection, after final ligatures of the main enlarged lymph vessel above and below, another incision was made above Poupart's ligament, and the inguinal canal opened into and another set of varicose lymphatics exposed and removed of the thickness and length of the thumb. Nothing could be felt on palpating the abdomen. The patient made a prompt recovery.

Stated Meeting, November 22, 1886.

DR. LEWIS S. PILCHER read a

**NOTE ON AMPUTATIONS FOR JOINT-DISEASE WHEN
LUNG TUBERCULOSIS COEXISTS.**

The frequency with which tuberculous joint affections are complicated with tuberculous diseases of the internal organs, is such as to make the question of their mutual reaction one of importance.

Willemer, in his report on the results obtained in tuberculous disease of the knee-joint by König at the Göttingen clinic, during the seven years ending October, 1882 (*Deutsche Zeitschr. f. Chirurg.*, Bd. 22, Hefte iii. und iv.; *Annals of Surgery*, 1885, vol. ii. p. 514), states that of 174 cases operated upon, 15 per cent. of those below 10 years of age, 20 per cent. of those between 10 and 20, and 37 per cent. of those over 20, were complicated with tuberculous diseases of internal organs. Volkmann, in his address on tuberculous surgical affections, at the German Surgical Congress of 1885, said "Local tubercular disease of other organs combines far more rarely in children than in adults with fatally progressing lung tuberculosis. In an older individual, having,—e. g., caries of the wrist, it is exceptional that he does not have or is not soon attacked by pulmonary tuberculosis." Vincent, of Lyons, in his article on scrofulo-tuberculous diseases of knees, in the *International Encyclopedia of Surgery*, vol. vi. p. 925, speaking of the results of a general scrutiny of patients affected with tubercular osteitis, or osteo-arthritis, says "Too often there are found manifest signs of advanced pulmonary tuberculosis."

It is needless to multiply authorities or observations for the purpose of emphasizing the frequency of the co-incidence of tuberculosis of internal organs with knee and joint disease of like character. The question which I wish to submit for consideration in the present note, is, What modifying influence, if any, should the coexistence of an actively progressing lung tuberculosis have upon the operative measures which shall be adopted in the treatment of tuberculous joint affections? How is the lung tuberculosis likely to be affected by the operation upon the extremity? What disturbance in the repair of the operation wound in the extremity is likely to arise from the coexistent pulmonary trouble? Is it worth while, in the presence of an affection of an internal organ, which with great certainty entails a fatal termination, to subject a patient to the traumatism required to rid him radically of a local affection of an extremity?

A case in point is the following: In January, 1879, nearly eight years ago, I first was consulted by a lady, then thirty-seven years of age, on account of slight lameness of the right knee. There was a tenderness on pressure on the internal condyle of the femur, with some puffiness of the overlying soft tissues. In the preceding March she had slightly bruised this knee, the injury being so insignificant that it was not considered worthy of attention, until the subsequent increasing lameness compelled attention. The father of the patient, and a maternal uncle, had both died of tuberculosis pulmonalis; and at the period of the injury and during the subsequent years, the patient was suffering a severe strain upon her constitutional vigor through domestic afflictions and deprivations. It was imprac-

ticable for her to give to the limb the rest required for its proper treatment, and I shortly lost sight of her. Three years later, June, 1882, I saw her again, when she consulted me on account of persistent cough, with debility and loss of weight. Physical examination revealed a deposit at the apex of the left lung. Her knee was still troubling her some, but she was able to walk about without any marked limp. In the interval that had passed, she had had two attacks of acute synovitis of the affected knee. Under treatment during the summer and autumn, a markedly progressive improvement in her cough and in her general health took place, but her lameness increased, with periarticular muscular rigidity and nocturnal spasms, followed by a renewed acute synovitis. Immobilization with extension was instituted, and finally, pus having been demonstrated by the aspirator, free incision into the joint with antiseptic irrigations were made. The joint suppuration soon ceased under this treatment; the wound healed, and wearing an immobilizing apparatus, the patient was able to be around upon crutches during some months. An attempt to gain increased freedom of use was then followed by a renewed acute suppurative attack, which persisted despite antiseptic irrigations and drainage as before. The pain and loss of sleep combined with the discharge to sap the patient's general strength. Meanwhile the dormant pulmonary trouble was reawakened, and the general symptoms as well as physical examination indicated a rapidly progressing lung tuberculosis present.

In this case the aggravated character of the suffering caused by the knee-joint affection, together with the depressing effect of the confinement to the bed which it necessitated, determined me to undertake a radical operation for the removal of the parts involved in the joint affection, despite the extent and activity of the lung disease. Perhaps the most important guide to the surgeon's action is to be found in what is suggested by the remark just made. Any possible remote unfavorable influence upon the lung affection that an operation might entail, or any possible disturbance of healing that might later affect the operation wound is thrown into the background by the more immediately pressing necessity of relief to the present suffering, which the knee and joint affection is inflicting. In a condition such as I have described, the joint affection constitutes an acutely urgent condition, the indications for the relief of which are of supreme importance.

Accordingly, in the case under consideration, I proceeded to operate in August, 1884. The joint was opened by the usual anterior semilunar incision as per excision; the articular surfaces of the femur and tibia were extensively eroded, the crucial ligaments had disappeared, and the whole of the exposed surface was soft and friable. Upon attempting to apply the sharp spoon to it, the instrument passed almost without resistance for some distance up the shaft of the knee into a caseous mass. The evident tuberculous degeneration of the lower end of the femur was so extensive that complete removal of all the affected tissue by excision was out of the question. I therefore proceeded to amputate, making the section of the femur at about its middle third. The local result was all that could have been wished; healing per primam throughout most of the wound was effected. A simple small sinus persisted for some weeks,

but finally spontaneously closed. In three weeks the patient was able to leave her bed, and soon resumed the direction of her household affairs. The effect upon the lung tuberculosis was also very marked; the activity of its further progress was greatly hindered, cough diminished, appetite improved, and general strength increased. Two years and three months have now passed since the amputation, and the patient is still living, though she is far from being a well woman; being distinctly tuberculous, with cough, dyspnea on exertion, and general debility. No extension of her lung trouble, however, has been manifested up to the present date. The stump is firm, and free from any signs of tubercular degeneration whatever.

In connection with this case, I would like to cite two cases which were embodied in a memoir by Dr. Mabbous, of Lisle, and commented on by Dr. Chauvel at the meeting of the French Surgical Society of February 10, 1886. In the first case, tuberculous caries of the metatarsal bones of a young soldier having been treated by resection, there followed synovitis of the periosteal sheath, and later, suppuration of the tibio-tarsal articulation and concomitant pulmonary tuberculosis. After three months, all the symptoms continuing to be more unfavorable, the foot was amputated; rapid cure followed; the pulmonary symptoms abated, and, finally, disappeared, and robust health was regained.

In the second case, likewise in the person of a young soldier, suppurating knee-joint disease and beginning pulmonary tuberculosis coexisted. Arthrotomy was done, the pus evacuated, the fungosities removed, and the denuded bone scraped; this was followed by redoubled suffering, probable meningitis, and more pronounced pulmonary symptoms. At the end of a month the pain was atrocious, emaciation extreme, the exhaustion almost complete, and early death certain. At the earnest wish of the patient, and in spite of the gravity of the condition, amputation of the thigh was done. Great improvement followed for one month, then the stump ulcerated, fever reappeared, tuberculosis of the abdominal viscera declared itself, and, finally, death at the end of four months after the amputation, but no recurrence of the intense suffering for which the operation had been performed.

In the discussion which followed M. Chauvel's report, a number of additional instances were adduced in which either apparent complete recovery, or great improvement in a lung tuberculosis had followed amputation for coexisting joint disease. All, however, were not ready to accept the tentative proposition of Chauvel, that local tuberculosis, as in osseous and articular affections, is to be considered as a neoplasm, the more malignant from its tendency to generalization, and to be treated under the same rules as sarcoma and carcinoma; and that early amputation is indicated whenever the extirpation of the disease in place is impossible, or when the anatomical conditions do not permit the complete and certain ablation of all the infected tissues.

Without attempting any elaborate discussion of the many phases which are presented by coexisting lung tuberculosis and osteoarthritic tuberculosis, the materials for which have amassed in great abundance during the last few years, I desire to close the present brief note by the following theses, which seem to be in accordance with present experience:

1. The probabilities of a spontaneous cure, or prolonged abeyance of a tubercular bone or joint trouble, as the result of expectant and palliative treatment—e.g., improved hygiene, rest, counter-irritation—is much greater in children than in adults.

2. The probability of the presence or early development of lung tuberculosis in case of tubercular bone and joint affections, is much greater in adults than in children.

3. Incomplete operations, as drainage and irrigation of joints, évidement, and resections in which all of the diseased tissue is not removed, are less likely to be followed by ultimate good results in adults than in children.

4. Operative interference of a radical character is justifiable at an earlier date, in the history of a bone or joint tubercular affection, in an adult than in a child.

5. When a lung tuberculosis is present, and an operation for the relief of a coexisting bone or joint affection is indicated, as the result of such operation the lung affection, while in some cases influenced, is more frequently temporarily checked in its progress, and in some instances is apparently entirely removed.

6. Local relapse after operation for an osteo-arthritic tubercular disease, lung tuberculosis coexisting, is exclusively conditioned upon incompleteness of the operation,—the fact that somewhere tubercular tissue escaped removal—and not upon any influence exerted by the lung affection.

7. In any case of osteo-arthritic tuberculosis demanding operation, in which a doubt exists as to the possibility of removing absolutely all the diseased tissue by the more conservative methods of arthrectomy or excision, the coexistence of lung tuberculosis would be a circumstance that would add weight to the reasons for having recourse to the more radical operation of amputation.

8. After an amputation in perfectly healthy parts, as prompt healing may be expected in persons suffering from lung tuberculosis, as after such an operation in a healthy person. Relapses at the stump do not occur even in persons with advanced lung disease.

DR. LANGE presented a boy, ten years of age, upon whom he had performed

RESECTION OF THE HUMERUS FOR FRACTURE.

The boy fell from a tree seven weeks ago, a distance of about eight feet, striking on his right shoulder. On admission to the German Hospital, two days later, a fracture of the right humerus was found immediately below the head. The lower fragment had apparently entered the deltoid muscle, and, with a sharp edge, was fixed within the deep layer of the skin, without penetrating it. In this way a distinct protrusion was formed on the anterior aspect of the shoulder, the elbow being thrown backward, so that the axis of the humerus was directed abnormally in front. There existed a very extensive extravasation of blood, but no general disturbance. It was quite impossible to detach the lower fragment from its abnormal attachment; even the skin was so tightly fixed to the bone that it could not be made loose. On the seventh day, after swelling and tension had markedly subsided, the patient was put under ether, but it was found impossible by manipulations to replace the bone. An incision was then made over the displaced

fragment, the slit in the deltoid muscle enlarged, and, by proper manipulations, efforts were made to bring the fragments into coaptation. The fracture itself presented the following condition: There was separation exactly in the epiphyseal junction as far as the middle of the bone; from there the line of fracture went in an oblique downward and backward direction, its lowest point being about two inches below the level of the epiphyseal line. In order to bring the fragments into proper apposition, it was necessary to elevate the arm above the horizontal line, and to give it a strong outward rotation, at the same time bringing it slightly forward. The periosteum and fibrous attachments on the edge of the upper fragment, were not torn exactly in the line of fracture, but at a short distance below, so that they overlapped the edge of the upper fragment, and had to be turned upward. The periosteum had to be slightly indented, and then the coaptation of the fragments could be effected; the long tendon of the biceps was not torn, but lifted out of its ridge, and dislocated to the inside. With the lower fragment it returned to more normal relationship. The wound, after some days of high temperature, but without other general disturbances, healed kindly. For some time after the removal of the drainage tube, bare bone could be felt; the periosteum having been lifted off the lower fragment to a great extent; but no necrosis occurred, and complete cicatrization has taken place.

The case was very interesting, in that the upper fragment, by the action of the muscle insertion on the tuberculum majus, is abducted and rotated outward. Consequently, during the after-treatment, the corresponding position of the arm was maintained with slight extension, and a splint which passed from the posterior aspect of the arm over the back to the opposite scapula. Recently, that way of treating fractures of the uppermost portion of the humerus has been recommended by Bardenheuer. It confines the patient to bed for a long time, but it certainly secures the physiological relations of the fragments.

Very shortly after this operation was done, a man was admitted to the German Hospital who had a fracture of the surgical neck of the humerus. He was treated on the same principle, was kept in bed for nearly five weeks; during the last week the arm was gradually brought down and, though the patient was discharged before complete recovery had taken place, it could be seen from the comparative freedom of the movements in the shoulder at that time that the treatment would yield a very good final result.

From these two observations he felt entitled to recommend Bardenheuer's method of treating fractures in the upper part of the humerus. In fractures of the upper third of the thigh he had for a number of years followed a similar principle and has every reason to be satisfied. The task in treating fracture being at all times to bring the fragments into a position most similar to the normal, if the upper fragment is not under our control we must make concessions with the lower.

DR. STIMSON said that abduction of the joint was still lacking by about a half, and rotation almost entirely. The angular and rotatory displacement of the upper fragment after fractures of the upper part of the humerus was, he thought, generally recognized, as was also the

necessity of placing the lower one in a corresponding position during treatment.

THE PRESIDENT remarked that the arm could be raised to nearly a right angle with the body without moving the scapula; but at that point the scapula began to move.

DR. LANGE stated that this was almost the condition of the normal subject.

DR. WEIR thought this variety of fracture was not at all unique, as he could recall a good many instances where the result in usefulness of the limb did not differ from this materially. The only advantage which the operation affords, is, that there is less deformity from reposition of the lower fragment, as a rule, though it is not at all easy to overcome the displacement; yet securing the arm to the chest wall and carrying of the forearm in a sling, have given results far from unsatisfactory. He would be very loath to follow the example suggested by Dr. Lange, which, though successful, has the disadvantages which of necessity appertain to an operative procedure, even though conducted under antisepsis. Bardenheuer's method he had not tried, but thought it would be very awkward to carry out. In his experience the fracture was a less difficult one than it looked to be.

DR. LANGE remarked that if Dr. Weir believed he preferred the radical operation, he was mistaken. But that in this patient there were perforation and interposition of the deltoid, and from the position of the fragments an operation was indicated; he did not think in this case the result would have been satisfactory unless operative procedure were effected. In the second case he mentioned, he had only carried out the principles of elevation and rotation. He considered the method of treatment very rational.

DR. WEIR could recall two recent cases in which one fragment of the bone projected through the muscle and was lodged under and in the skin; but although reduction could not be made good union resulted; as in each case, the lower portion of the fractured surface, from its great obliquity, was opposed.

DR. LANGE had very strong doubts if reduction and a satisfactory result could have been secured in the patient he presented, without the operative procedures he had followed.

DR. WYETH presented a young man upon whom he had operated for

CONTRACTION OF THE PALMAR FASCIA,

and fixation of the tendon of the superficial flexor of the ring finger to this fascia, giving the following history:

W. R., seventeen years of age, on the 15th of last June fell and received a deep wound of the palm of the hand. He suffered from contraction of the palmar fascia, and the superficial tendons of the ring finger of the left hand. Five weeks ago he was seen by Dr. Wyeth, who found the finger drawn down in contact with the palm and incapable of being extended, although there was limited motion. An Esmarch bandage was applied and sixty minimis of a four per cent. solution of cocaine injected into the hand in the line of the proposed dissection. The contracted tendon was then exposed and found to be adherent to the palmar fascia. The adhesions were divided and the fingers restored to their normal position. It was a perfectly dry operation and the patient suffered no pain. There was very marked ab-

duction of the little finger caused by injury to the minimi digiti which was cut through at the time of the accident. To correct this deformity a second cocaine operation was made and about one inch of the abductor minimi digiti was excised, so that the patient can now carry the finger into line. He now uses the palmar interosseous muscle to a certain extent and has some adduction in the little finger, and has perfect motion in the finger which was bound down. One of the principal features of the operation was,—the perfect immunity from pain under the use of cocaine.

DR. PILCHER presented a woman whose case he had reported in his paper on prophylactic arterial ligation about a year ago, the case being one in which a

SIMULTANEOUS LIGATION OF BOTH THE SUBCLAVIAN AND INTERNAL JUGULAR VEINS

had been done for a wound sustained during an operation for the removal of a carcinomatous glandular tumor at the base of the neck. One year and a half had elapsed since the operation, and Dr. Pilcher thought it might be of interest to show the ultimate result of such an unusual interference with the blood supply to the upper extremity. Amputation of the breast for carcinoma had been done first some years ago; the disease, however, again made its appearance in the axilla and base of the neck above the clavicle. The operation by Dr. Pilcher consisted in the removal of all diseased tissues: the axilla was cleaned out, and in the course of lifting the tumor up from the base of the neck, for the purpose of enucleating it, a strong hemorrhage took place from the inner angle of the wound.

On exposing the field of operation it was found that a slit had been torn in both the internal jugular and subclavian veins just previous to their convergence to form the innominate. The original incision was enlarged and the tissues drawn aside to bring the wounded parts into view; a double ligature was applied to both bleeding vessels. In consequence of the great turgidity of the veins of the extremity that immediately followed, Dr. Pilcher ligated the axillary artery high up. The immediate consequence of the operation was considerable edema of the arm coming on at the end of a week, and persisting for several weeks, but finally leaving the arm in its present condition, which shows a somewhat increase of size when compared with the other. It seems as though the tissues in this arm were a little more succulent. There has been no recurrence of the disease since the operation and the woman is apparently perfectly well to-day.

He also referred to a case reported in one of the Russian journals in which ligation of the subclavian vein and artery had been done at the same time to arrest the hemorrhage from a blind cut, which had been made in an attempt to enlarge an abscess sinus for the introduction of a drainage tube. In this case also the result was good; but during convalescence it was complicated by suppurative inflammation of the shoulder and elbow-joint. He knew of no other case on record where the internal jugular and subclavian veins had been tied simultaneously: the case he referred to in the Russian journal being the only one of a similar nature so far as the simultaneous ligation of the main artery at the root of the arm is concerned.

Dr. Pilcher, in reply to inquiries, stated that there were

two rents, and that ligatures were placed on either side of the rents both in the internal jugular and subclavian veins.

DR. LANGE remarked that about an hour ago he had the mishap to open the crural vein immediately below Poupart's ligament at the entrance of the saphenous vein, while operating for the extirpation of a malignant tumor in the groin. The edges of the wounded vein were drawn together with catgut sutures, but did not include the lumen of the vessel; a complete and perfect closure was effected in this manner. The loss of blood was not considerable. A lateral ligature did not hold in this case, the walls of the vessel being thickened and resistant.

DR. WYETH remarked that the condition of the arm in Dr. Pilcher's case reminded him of a case in which he operated for the removal of carcinomatous glands of the axilla, during an operation for removal of cancer of the breast. The carcinomatous tissue was studded along the axillary vein so closely, that in order to remove all of the diseased tissue he was compelled to ligate this vein and all the branches emptying into it, and excise the part from just below the clavicle down to the brachial region. The patient recovered: and although the circulation of the arm upon that side was good, there resulted the same flabby condition of the forearm as observed in Dr. Pilcher's patient; but she had a very useful arm for sewing and light work. He had seen her a month ago, now more than two years after the operation; when she had the first symptoms of a return of her old disease in the glands of the neck and in the lung.

THE PRESIDENT asked Dr. Pilcher if he believed that ligation of the artery would diminish the chances of edema.

DR. PILCHER replied in the affirmative, and stated that in his patient the conditions were peculiar, as not only were the veins of the axilla cut off; but the veins of the shoulder, the transverse cervical veins and supra-clavicular veins had been cut off during the operation for the removal of this supra-clavicular growth; so there seemed to be nothing but the capillaries through which the blood might return to the trunk.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 16, 1886.

THE PRESIDENT, A. JACOBI, M.D., IN THE CHAIR.

DR. HENRY E. CRAMPTON, Secretary of the Section on Hygiene, Public Health, and State Medicine, reported that at the first meeting of the Section, which was held Friday evening December 3d, DR. BLAINE, of the Willard Insane Asylum at Ovid, N. Y., read a paper on

BOVINE TUBERCULOSIS; ITS COMMUNICATION BY INHALATION, INGESTION, AND HEREDITARY TRANSMISSIONS, AND ITS DANGERS TO PUBLIC HEALTH.

His attention was especially drawn to the subject by an outbreak of bovine tuberculosis among the cows belonging to the Asylum. He was enabled to make a very careful and thorough series of observations, and on this occasion presented a large number of pathological specimens of much interest. Tuberculosis had been

induced in a number of rabbits and other animals by inoculations from the diseased cows, and in calves by the drinking of their milk. Hence, it was reasonable to suppose that human beings were liable to become infected from tuberculous animals, and the subject was, therefore, one of very great practical importance. In the course of the paper Dr. Blaine expressed the opinion that two per cent. of the cattle slaughtered for market, and no less than twenty-one per cent of milch cows, were affected with tuberculosis.

DR. HERMAN KNAPP made an address on

FERMENTATION, PUTREFACTION, AND SUPPURATION;
WITH DEMONSTRATIONS AND EXPERIMENTS.

He had been particularly impressed, he said, with a remark made by Professor Brieger, of Berlin, a short time since, to the effect that the great majority of all diseases seem, in the light of recent investigations, to be of bacterial origin. He then referred to the health reports of New York for a single week in the latter part of August. 33 per cent. of the deaths were reported as being due to infectious diseases; 16 per cent. to consumption; and about 5 per cent. to croup and diphtheria. Here were nearly 55 per cent. of the mortality attributable to diseases of undoubtedly bacterial origin. In addition, 20 per cent. of the deaths were from diarrhoeal diseases, and at least 90 per cent., if not all of these, were cases of germ disease. This brought the percentage up, therefore, to 75; but this did not include such affections as pneumonia, peritonitis, syphilis, gonorrhœa, and skin affections, which were not entered as infectious diseases; and if only 10 per cent. of these were classed as of this character, it would increase the percentage to 85. Still, nothing had been said of surgical diseases in which undue suppuration was caused by microbes, and estimating the deaths from these at 5 per cent., we have a grand total of 90 per cent. of the deaths due to diseases of bacterial origin. It seemed, therefore, that Professor Brieger was right.

Bacteriology has shown its principal fruit in surgery. It is antisepsis that has advanced this branch of medical science to its present high position. Antisepsis, however, is nothing but the practical application of fermentation, putrefaction, and suppuration.

He next gave a *résumé* of the history of fermentation from the year 1788, when Lavoisier found that sugar was split into carbonic acid and alcohol by the process of fermentation, which he thought was simply chemical in character, knowing nothing of the animated life that was concerned in it. He spoke of the researches of Carnéature (who discovered the yeast-plant in 1835), Ampère, Guélumae, Turpin, Franz Schultze, Liebig, Schwann, Helmholz, Schröder, Pasteur, Tyndall, and Lister; and showed that four principles had been applied in excluding germs, so that no fermentation could take place. Fermentation he described as the decomposition of carbohydrates through the agency of the yeast-plant; and he compared the action of the latter to that of the bacteria which cause putrefaction and suppuration.

Putrefaction is produced by different kinds of bacteria, fifteen or twenty varieties of which had now been discovered. There are two grades of putrefaction. The first is met with when there is but little oxygen present, and the products are water, carbonic acid,

and ammonia. The process of decomposition is accompanied by little or no offensive odor. The second grade, or putrefaction proper, is seen when there is a larger quantity of oxygen.

Dr. Knapp then went on to ask, Are suppuration and putrefaction the same thing? Surgeons used the two terms promiscuously, and it seemed that suppuration, if not identical with putrefaction, was its consequence. There was, however, one point of difference as would be seen. Having spoken of the experiments of Recklinghausen, and others afterward, with the cornea of the frog, he referred to the common assertion of surgeons that if germs were excluded, suppuration would not take place. He had undertaken to investigate three special points in this connection, viz.:

- (1) Does mere traumatism produce suppuration?
- (2) Do foreign bodies alone produce suppuration?
- (3) Do chemical agents alone produce suppuration?

In the first place, then, Does mere traumatism produce suppuration? In Berlin and at home he had made a number of experiments on the eyes of rabbits. If a wound had been made by a perfectly clean instrument he had found that it would heal by first intention, with no suppuration whatever; but if the wound was made by a contaminated instrument, suppuration invariably resulted. Dr. Knapp exhibited a rabbit in which extraction had been practised on one eye with a clean knife, and the other eye had been operated on with an instrument contaminated with pyogenic organisms. The result was, that in one case the parts had perfectly healed without any suppuration whatever, and in the other profuse suppuration had been at once set up, and pronounced staphylooma finally produced. He said he had performed a number of similar operations, and the wounds made by clean instruments had never suppurred.

One of the axioms on which antisepsis rests is, that simple fractures never suppurate. This is true, as a rule; though there are rare exceptions. When suppuration does occur, however, it is always in cases where some other form of suppuration is found in the body. Whenever the patient is healthy, therefore, no suppuration takes place. In support of this statement, he mentioned the experiments of Becker, who, having made fractures in animals, injected pyogenic fungi into the ear; with the result of at once producing suppuration, although the existing injury was only a simple fracture. Other similar experiments showed how ulcerative endocarditis and other suppurative processes could be produced by the introduction into the system of pyogenic organisms.

Dr. Knapp next took up the inquiry, Are foreign bodies by themselves capable of producing suppuration? The conclusion at which he arrived was that if they were introduced antisepically they would produce no suppuration, and that they could remain indefinitely without this being the case. By way of illustration, he exhibited a rabbit into the cornea of one of the eyes of which he had introduced, by means of sterilized instruments, a piece of rusty hair-pin, after having first brought the latter to a glow for the purpose of destroying any organic matter that might be attached to it. The result was, that no suppuration whatever had been produced, although the foreign body had now been in the eye for quite a long time. Into the cornea of the other eye of the same

rabbit, however, he had introduced a piece of the same rusty hair-pin, which had been dipped in fluid containing pyogenic fungi; and within twenty-four hours a violent phlegmon was set up which soon completely destroyed the eye. Still, the truth of the proposition that foreign bodies alone will not cause suppuration was not yet generally admitted, and Pasteur, in 1878, had stated that even if foreign bodies were introduced antisepically they were capable of producing suppuration. Whether he still adhered to this view Dr. Knapp was unable to say.

He then came to the third question, Do chemical agents by themselves ever produce suppuration? This, he said, was almost universally answered in the affirmative. Especially in the case of croton oil it is claimed that suppuration is caused without the intervention of germs. If this exception could stand, however, the theory of suppuration would not stand. It is a very difficult question to test satisfactorily in a practical manner; but the problem had been undertaken by four observers under very strict rules. The results of their experiments went to show that chemical agents do not of themselves produce suppuration. In repeating some of their experiments Dr. Knapp had experienced much difficulty, especially as regards croton oil, on account of the extreme irritation which it causes. Oil of turpentine, however, he had found much more manageable. He had followed the method of J. Straus, which he proceeded to describe. On account of the practical impossibility of otherwise completely disinfecting the fur of the animal, he sterilized the skin of the rabbit by means of the actual cautery. Then having made the injection under the skin of the chemical agent to be tried by means of the sterilized apparatus, the opening made by the needle was sealed up by the actual cautery. Some of the experiments were made by means of a pipette, the opening in the skin being made with a heated knife. With the experiments made with oil of turpentine and croton oil (although there were only five in which the latter was used) suppuration resulted in only ten per cent. of the cases. As a rule, there was coagulation necrosis, but no suppuration. In the cases in which suppuration did occur, it was found that there were always germs present, on account of some imperfection in the experiment.

Boice, of Utrecht, had performed the same experiments in connection with the anterior chamber of the eye, which had the great advantage of allowing the whole process set up by the chemical agent to be observed by the experimenter; and Dr. Knapp had followed Boice's procedure. He had also in one instance introduced the chemical agent into the abdominal cavity. No appreciable effect was produced upon the animal, and when, two weeks afterward, it was killed, no pathological changes whatever could be observed. He then exhibited Koch's syringe, which, he said, he had found very useful in making his experiments. In his experiments on the eye inflammation was caused, but no suppuration, even with croton oil, which he found could be used with more satisfaction when mixed with olive oil in the proportion of one to two. In some of his experiments the injection was made through the sclerotic. When the same chemical agent (either croton oil or turpentine) was introduced into the other eye in connection with pyogenic fungi, the most violent inflammation and suppuration were always produced.

He also made cultures from the two classes of eyes, using staphylococci principally for this purpose. From the eyes containing pus an immense number of microbes, with pus, resulted. But microbes (although no pus) were also obtained from the eyes from which pyogenic fungi had been excluded, and this required an explanation. The animals were killed, and microbes were found, not only in the eyes, but also in the kidneys and the blood, although there appeared to be some in the brain. It was evident, therefore, that the system had become infected through the suppurating eye, and the microbes which were found in the other eye had originated from this source. Hence it was determined to make the control experiments in two different series of animals, instead of operating upon the two eyes of the same animal. This experiment was, he thought, satisfactory and conclusive. In the eyes into which pyogenic germs were introduced, suppuration occurred, and microbes were found in larger numbers; but in the eyes from which such germs were excluded there were neither suppuration nor microbes. The results found in the latter were merely coagulated fibrin and fibrino-leucocytic exudation. Dr. Knapp thought, therefore, that so far as these experiments went, we were justified in formulating the proposition that suppuration is always produced by microbes, and hence there can be no suppuration without the intervention of these morbid agents.

In conclusion, he asked, What is suppuration? Just as in the case of fermentation, he said, the microbe ought to enter into the definition. We say that fermentation is the splitting up of a hydrocarbon into simpler forms through the agency of the yeast-plant. Putrefaction, again, is the similar splitting up of a nitrogenous substance through the agency of microbes. Suppuration, then, is likewise the splitting up of a nitrogenous substance through the same kind of agents. The difference between the two is that in putrefaction the process is always concerned with dead nitrogenous substances, while suppuration always takes place in living nitrogenous tissues. In this way the parallelism of these processes is established.

DR. CHARLES HEITZMAN remarked that the great stress which the latter laid upon the importance of bacteriology was abundantly justified in the light of recent advances in this department of medical science. Twenty years ago it was found that if acid urine were injected into any part of the body, no results ensued; but if alkaline urine were injected, the most intense disturbance was excited. The experiments of Koch and others had shown that this marked disturbance was due to the presence of microbes.

While Dr. Knapp's experiments, and the others to which he had referred, showed that suppuration could not be produced without microbes, other experimenters of the highest authority had come to the conclusion that there could be pus absolutely without the presence of microbes. Dr. Knapp, however, would explain that by saying that it was not pus which those observers saw, but a collection of leucocytes; and he (Dr. Heitzman) was inclined to think that he was right. Still, Koch, the great master of bacteriology, was as yet by no means convinced of the correctness of the view that suppuration is absolutely dependent on the action of microbes.

Dr. Heitzman said that he had been deeply impressed with the results obtained by Dr. Knapp, and that, for one, he was willing to admit that not a single microbe could be found in the cases where care was taken to exclude absolutely all pyogenic germs, and that there was likewise no suppuration whatever. Suppuration is by no means synonymous with inflammation, and it is entirely possible to have severe inflammation, characterized by hyperplastic manifestations, but entirely devoid of suppuration. It is difficult to understand, however, how in cases of osteomyelitis developing suddenly in healthy subjects apparently as the result of traumatism, the microbes could be introduced into the middle of the bones.

CORRESPONDENCE.

THE EXTRACTION OF A COCKLE-BUR FROM THE LARYNX.

To the Editor of THE MEDICAL NEWS,

SIR: *A propos* an article in the number of THE MEDICAL NEWS for December 11th, on the successful removal of an extraneous body (cockle-bur) from the larynx, by Dr. Crawley, of King, Mississippi, I would like to call attention to the following case:

I operated upon a boy, *æt.* fifteen, about one year ago, who had inspired a cockle-bur, which, being firmly impacted between the vocal cords, resisted all attempts at extraction by laryngeal forceps of different shape and size. The cause of these vain attempts was, that the bur, from its position, encroached on the mucous membrane on three sides, where it was impacted by numerous prickles, whilst the forceps could grasp only a small part of the periphery. Finally I introduced, with the aid of the laryngoscope, the sponge instrument (a small sponge fastened to a strong laryngeal probe) of Voltolini into the larynx, behind and below the cockle-bur; and, the numerous prickles of the bur twining into the meshes of the sponge succeeded, by the first forcible traction, in dislodging the bur from its position, and it flew to a considerable distance out of the oral cavity.

I reported this case to the Cincinnati Academy of Medicine on January 28, 1886, and it is, I believe, the first case of removal of a foreign body from *that region of the larynx* by this simple method.

Very respectfully yours,
MAX THORNER, M.D.

CINCINNATI, December 14, 1886.

THE COLLECTIVE INVESTIGATION OF DISEASE.

To the Editor of THE MEDICAL NEWS,

SIR: At the session of the International Medical Congress of Copenhagen, I was appointed the American member of the Committee of Collective Investigation, and permitted to select a colleague in the United States. Thus the pamphlets and circulars prepared by, or with the authority of, the General Committee in London, were distributed under the names of N. S. Davis and the undersigned. They were made returnable to my address on January 1, 1887.

As I have resigned my position on the above committee, I require the permission and privilege of notifying,

through your journal, the holders of the above pamphlets that they ought to be sent to N. S. Davis, M.D., 85 Randolph Street, Chicago, Ill., instead of to the undersigned.

Very respectfully,
A. JACOBI, M.D.

NEW YORK, December 19, 1886.

BERI-BERI.

To the Editor of THE MEDICAL NEWS,

SIR: Referring to the editorial in the current number of THE MEDICAL NEWS relative to the cases of *Beri-beri* described by Dr. E. C. Seguin, and making the statement that this disease had not heretofore been described in this country, I beg to inform you that eighteen cases of beri-beri were admitted to the Marine Hospital at San Francisco, then under charge of Surgeon E. Hebersmith, in August, 1880.

A full clinical report of these cases with autopsies of those fatal, microscopical examinations of the blood by Prof. Wythe, and consular reports of the disease as it occurs in the Orient, will be found in the annual report of the Marine Hospital Service for 1881.

Very respectfully,
FAIRFAX IRWIN,
Passed Ass't Surgeon, M. H. S.

WASHINGTON D. C., Dec. 18, 1886.

NEWS ITEMS.

FERNANDEZ ON A NEW ANTI-RABIES INOCULATION.

—Dr. Fernandez, of Barcelona, claims to have discovered a new vaccine to preserve men and animals from the contagion of rabies. He has collected a great number of observations, showing that dogs bitten accidentally by vipers are never affected by rabies, either spontaneously or when bitten by affected animals. He has made certain direct experiments, inoculating dogs with a small quantity of the viper's poison. After inoculation the animals were ill for four or five days, with symptoms of slight fever, prostration, and more or less profound somnolence. He maintains that the animals thus operated on are protected from rabies, and that neither when inoculated with the saliva, nor when bitten by affected animals, do they contract the disease.

✓ SOLUBILITY OF MORPHINE IN LIME-WATER.—Doubtless many physicians who have given sulphate of morphine in solution in lime-water have not settled in their minds the chemical compatibility of the mixture. Some recent experiments in the assay of morphine by Wrampelmeiner & Meexert, show the mutual solubility of lime-water and morphine.

BENJAMIN FRANKLIN ON WELLS.—This great man, who was the munificent founder of Philadelphia's water works, had observed that the water of wells in populous places gradually became unfit for use, and therefore bequeathed the city £100,000 for the purpose of bringing pure water from Wissahickon Creek. But he had a curious notion of the cause of the deterioration in well water, which came near being the reverse of the truth. In his will, referring to the bequest, he said:

“Having considered that the covering of the grand plot of the city with buildings and pavements, which carry off most of the rain, and prevent its soaking into

the earth, and renewing and purifying the springs, whence the water of the wells must gradually grow worse, and in time be unfit for use, as I find has happened in all old cities, I recommend that at the end of the first one hundred years, if not done before, the corporation of the city employ a part of the one hundred thousand pounds, in bringing by pipes the water of the Wissahickon Creek into the town, so as to supply the inhabitants, which I apprehend may be done without great difficulty, the level of the creek being much above that of the city, and may be made higher by a dam."

THE PIROGOFF SURGICAL SOCIETY OF ST. PETERSBURG is taking the lead in a movement for providing a central place of meeting for all the medical societies, where also accommodation will be found for all their libraries.

THE JOURNAL OF NERVOUS AND MENTAL DISEASE will hereafter be issued under the imprint of J. H. Vail & Co., New York.

THE AMERICAN RHINOLOGICAL ASSOCIATION would be pleased to have authors send any monographs, papers, or books, treating of any disease pertaining to the nose, throat, and ear, to the librarian, Dr. N. R. Gordon, Springfield, Ill. Due acknowledgment will be made by the Association.

LADY STUDENTS IN DUBLIN.—At the recent first professional examination of the Royal College of Surgeons in Ireland, there were seventy-eight candidates. A lady student took the first place. She is now attending the wards of one of the Dublin clinical hospitals, in company with the ordinary class of students.

THE PLAGUE OF EELS IN LONDON.—The inhabitants of the east end of London are suffering from a plague of eels. Everybody knows that the monthly reports of the chemists employed by the water companies show conclusively that the water is absolutely free from living organisms, and the explanation seems to be that the organisms are too large to get into the microscopes. The fish which the East London Company are distributing to their customers are indeed easily visible to the naked eye, for some have been found no less than eighteen inches long, and the mains abound with them to such an extent that the local board of West Ham has complained to the local government department, with the view of having some remedy applied. The eels, instead of fulfilling their destiny by being legitimately caught, skinned, and cooked, have a fashion of committing suicide in stop-cocks and taps. There they decompose, with the result, as illustrated lately, of causing the water to become horribly putrid, and of giving something very like typhoid fever to the unlucky consumers. A whole family has just been laid prostrate in this way, and one or two of its members are still seriously ill. The company has been appealed to, with little result. They say that three years ago some of their filter-beds burst, and that the unfiltered water on that occasion made its way into the mains, carrying with it a number of minute eels and other fish, which have since spawned and multiplied in the pipes. The mains have been repeatedly flushed, with the object of getting rid of the intruders, but without success; and the company's engi-

neer is only able to tell the sanitary authority that he does not consider that the water is injured by the eels as long as they are alive, though he admits that a dangerous nuisance may arise from them when dead. The matter is really a very serious one, for the evil is steadily on the increase. There is one consideration, too, which does not seem to have occurred either to the local board or to the company, and that is whether water that can under the conditions of its distribution here support the life of fish, is fit for human consumption? On what do the eels feed? Clearly not on weeds or other vegetable substances, for the water is confined in iron mains. If, however, they find enough animalcules in the water to enable them to live and grow to a considerable size, is it certain that what is eel's food may not be man's poison?

MERLATTI, THE FASTER, had, at last accounts, fasted for fifty days. He has been under strict surveillance, and has, it is said, taken only filtered water. He has lost twenty-two pounds of flesh. The daily excretion of urea has fallen to eight grammes. The heart beats sixty-six times per minute, and sphygmographic tracings show low arterial tension. There is a reduplication of the second sound.—*Medical Record*, December 18, 1886.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 14 TO DECEMBER 20, 1886.

WILLIAMS, JOHN W., *Major and Surgeon*.—Ordered for duty at Jackson Barracks, Louisiana.—S. O. 205, *Division of the Atlantic*, Dec. 14, 1886.

POPE, BENJ. F., *Major and Surgeon*.—So much of S. O. 285, A. G. O., Dec. 9, 1886, as directs him to report in person to the President of the Army Medical Examining Board, New York City, for duty as member and Recorder of the Board, is revoked.—S. O. 287, A. G. O., Dec. 11, 1886.

CORSON, JOS. K., *Captain and Assistant Surgeon*.—Leave of absence extended seven days.—S. O. 288, A. G. O., Dec. 13, 1886.

ANDERSON, C. L. G., *First Lieutenant and Assistant Surgeon*. Assigned temporarily to duty at Whipple Barracks, Arizona.—S. O. 132, *Department of Arizona*, Dec. 7, 1886.

BALL, R. R., *First Lieutenant and Assistant Surgeon*.—Ordered for duty at Fort Riley, Kansas.—S. O. 144, *Department of Missouri*, Dec. 13, 1886.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FOR THE THREE WEEKS ENDING DECEMBER 18, 1886.

BANKS, C. E., *Passed Assistant Surgeon*.—Granted leave of absence for twelve days, Dec. 16, 1886.

CARRINGTON, P. M., *Assistant Surgeon*.—Granted leave of absence for fifteen days, Dec. 6, 1886.

WILLIAMS, L. L., *Assistant Surgeon*.—Upon expiration of leave, to proceed to Boston, Mass., for duty, Dec. 17, 1886.

THE MEDICAL NEWS will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS should be addressed to No. 1004 Walnut Street, Philadelphia.

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